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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,548	12/30/2003	Frank J. Bottari	MTS-185J	9084
32692	7590	09/22/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			CHAN, SING P	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	
			1734	
DATE MAILED: 09/22/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,548

Applicant(s)

BOTTARI ET AL.

Examiner

Sing P. Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 15,20-26,35,38,39 and 42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14,16-19,27-34,36,37,41 and 43 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/17/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-14, 16-19, 27-34, 36, 37, 41, and 43 in the reply filed on June 29, 2005 is acknowledged. Applicant traverses the restriction requirement but did not provide any ground or reason for traversing the requirement and therefore the requirement is deemed proper and is made FINAL. Also, claim 40 was mistakenly left off the restriction requirement and should have been placed into group III, which is non-elected and withdrawn from consideration.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5-9, 11, 13, 14, 16, 18, 27-31, 33, 36, 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bottari (U.S. 6,280,552) in view of Levesoue et al (U.S. 3, 703, 603) and Hoyt (U.S. 2,711,983).

Regarding claims 1, 2, 5-9, 16, 18, 27, 26, 27-31, and 41, Bottari discloses a method of applying an edge electrode pattern to a touch screen. The method includes providing a strip of decal paper, applying a conductive material in an edge electrode pattern on the decal paper (Col 5, lines 33-35), applying an isolation layer on the edge electrode pattern (Col 6, lines 24-26), applying a conductive material in a conductive land or lead, i.e. wire trace, pattern on the isolation layer in an adjacent relation to the

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edge electrode pattern (Col 6, lines 27-30), applying a protective layer over the wire trace pattern (Col 6, lines 3-34), removing the decal paper (Col 6, line 35), applying the decal with the edge electrode pattern, isolation layer, wire trace, and protective layer onto a touch screen with the edge electrode closest to the surface of the touch screen (Col 6, lines 36—37), and heating the touch screen and the applied decal to bond the decal to the touch screen (Col 6, lines 5-10). Bottari is silent as to the decal is a heat transfer decal. However, applying printed circuit pattern with a heat transfer decal is well known and conventional as shown for example by Levesoue et al. Levesoue et al discloses a method of transferring electric circuit pattern. The method includes providing a decal paper (50, 52) (Col 4, lines 39-46), applying an insulation layer 60 onto the decal paper (Col 4, lines 61-65), applying an adhesive layer, which is a conductive material (Col 4, lines 13-28), to the insulation layer (Col 4, lines 65-67), applying the decal to the circuit board substrate (Col 4, lines 49-51), applying pressure and friction by rubbing the carrier (50), which generate heat, to melt the release agent (52) to bond the circuit pattern to the circuit board (Col 4, lines 51-58), and then removing the carrier 50 (Col 4, lines 59-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the circuit pattern with a heat transfer decal as disclosed by Levesoue et al in the method of Bottari as motivated by fact that Hoyt, also discloses a method of forming decals with printed conductive patterns, which are transferable to a circuit substrate by using either "press-on" or "slide-off" decals (Col 2, lines 5-30), which are all equivalents and functional expedients well known within the art.

Regarding claims 11 and 33, Bottari discloses the conductive material (Col 5, lines 33-35) and wire trace pattern (Col 6, lines 53-55) are applied by screen printing.

Regarding claims 13 and 14, Bottari discloses the isolation layer is lead borosilicate glass material. (Col 6, lines 24-27)

4. Claims 10, 12, 17, 19, 32, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bottari (U.S. 6,280,552) in view of Levesoue et al (U.S. 3, 703, 603) and Hoyt (U.S. 2,711,983) as applied to claims 1, 16, 18, and 27 above, and further in view of Kikuchi (U.S. 5,600,359).

Regarding claims 10, 17, 19, and 32, Bottari as modified above is silent as to applying the pattern with hot stamp machine equipped with a heated pad disposed between a feed roll of decal paper and take-up roll and over a hold for the substrate or touch screen. However, applying a pattern on a carrier foil using a hot stamp machine equipped with a heated pad disposed between a feed roll of decal paper and take-up roll and over a hold for the substrate is well known and conventional as shown for example by Kikuchi. Kikuchi discloses a hot stamping machine equipped with a heated pad (40) (Col 6, lines 12-29) disposed between a feed roll of transfer film (71) and take-up roll (72) (Col 7, lines 41-55) and over a holder (60) for a substrate (5) (Col 5, lines 46-51) to transfer portions (12, 13, and 14) of the transfer film (10) (Figures 2-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide hot stamp machine equipped with a heated pad disposed between a feed roll of decal paper and take-up roll and over a hold for the substrate as disclosed by Kikuchi in the method of Bottari as modified by the

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combination of references to provide a method of transfer printing to substrate such as metal or ceramic in a short time in a satisfactory printing state. (See Kikuchi, Col 3, lines 6-13)

Regarding claims 13 and 34, Bottari as modified above silent as to the temperatures and pressure for applying the pattern. However, one of ordinary skill in the art would appreciate the temperatures and pressure ranges would be obtain by routine experimentation and generally, the differences in the temperatures and pressure ranges will not support the patentability of the subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide any temperatures and pressure range, which are the optimum in the method of Bottari motivated by the normal desire of scientists or artisans to improve upon what is already generally known to disclose a set of optimum ranges.

5. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bottari (U.S. 6,280,552) in view of Levesoue et al (U.S. 3, 703, 603), Hoyt (U.S. 2,711,983), and Kikuchi (U.S. 5,600,359).

Bottari discloses a method of applying an edge electrode pattern to a touch screen. The method includes providing a strip of decal paper, applying a conductive material in an edge electrode pattern on the decal paper (Col 5, lines 33-35), applying an isolation layer on the edge electrode pattern (Col 6, lines 24-26), applying a conductive material in a conductive land or lead, i.e. wire trace, pattern on the isolation

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layer in an adjacent relation to the edge electrode pattern (Col 6, lines 27-30), applying a protective layer over the wire trace pattern (Col 6, lines 3-34), removing the decal paper (Col 6, line 35), applying the decal with the edge electrode pattern, isolation layer, wire trace, and protective layer onto a touch screen with the edge electrode closest to the surface of the touch screen (Col 6, lines 36—37), and heating the touch screen and the applied decal to bond the decal to the touch screen (Col 6, lines 5-10). Bottari is silent as to the decal is a heat transfer decal and applying the pattern with hot stamp machine equipped with a heated pad disposed between a feed roll of decal paper and take-up roll and over a hold for the substrate or touch screen. However, applying printed circuit pattern with a heat transfer decal is well known and conventional as shown for example by Levesoue et al. Levesoue et al discloses a method of transferring electric circuit pattern. The method includes providing a decal paper (50, 52) (Col 4, lines 39-46), applying an insulation layer 60 onto the decal paper (Col 4, lines 61-65), applying an adhesive layer, which is a conductive material (Col 4, lines 13-28), to the insulation layer (Col 4, lines 65-67), applying the decal to the circuit board substrate (Col 4, lines 49-51), applying pressure and friction by rubbing the carrier (50), which generate heat, to melt the release agent (52) to bond the circuit pattern to the circuit board (Col 4, lines 51-58), and then removing the carrier 50 (Col 4, lines 59-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the circuit pattern with a heat transfer decal as disclosed by Levesoue et al in the method of Bottari as motivated by fact that Hoyt, also discloses a method of forming decals with printed conductive patterns, which are transferable to a

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circuit substrate by using either "press-on" or "slide-off" decals (Col 2, lines 5-30), which are all equivalents and functional expedients well known within the art. Bottari as modified by combination of references is silent as to applying the pattern with hot stamp machine equipped with a heated pad disposed between a feed roll of decal paper and take-up roll and over a hold for the substrate or touch screen. However, applying a pattern on a carrier foil using a hot stamp machine equipped with a heated pad disposed between a feed roll of decal paper and take-up roll and over a hold for the substrate is well known and conventional as shown for example by Kikuchi. Kikuchi discloses a hot stamping machine equipped with a heated pad (40) (Col 6, lines 12-29) disposed between a feed roll of transfer film (71) and take-up roll (72) (Col 7, lines 41-55) and over a holder (60) for a substrate (5) (Col 5, lines 46-51) to transfer portions (12, 13, and 14) of the transfer film (10) (Figures 2-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide hot stamp machine equipped with a heated pad disposed between a feed roll of decal paper and take-up roll and over a hold for the substrate as disclosed by Kikuchi in the method of Bottari as modified by the combination of references to provide a method of transfer printing to substrate such as metal or ceramic in a short time in a satisfactory printing state. (See Kikuchi, Col 3, lines 6-13)

Allowable Subject Matter

6. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art of record discloses applying an edge electrode pattern and a wire trace pattern and isolating them from each other after they have been transferred to the touch screen using a laser.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sing P. Chan whose telephone number is 571-272-1225. The examiner can normally be reached on Monday-Thursday 7:30AM-11:00AM and 12:00PM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher A. Fiorilla can be reached on 571-272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chan Sing P

SPC

ca-fiorilla

CHRIS FIORILLA
SUPERVISORY PATENT EXAMINER

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